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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/581,713	06/05/2006	Taro Yamamoto	288434US26PCT	4884
22850 7590 08/20/2008 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER				
MATHEWS, ALAN A				
ART UNIT		PAPER NUMBER		
2851				
NOTIFICATION DATE		DELIVERY MODE		
08/20/2008		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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# Office Action Summary

**Application No.**

10/581,713

**Applicant(s)**

YAMAMOTO ET AL.

**Examiner**

ALAN A. MATHEWS

**Art Unit**

2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SI/02)  
Paper No(s)/Mail Date 6/5/06
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Japanese patent document JP 63-073628 (cited in Applicant's IDS and cited in a Search Report as a Y reference) and in further view of either the Japanese patent document JP 06-124873 (cited in Applicant's IDS and cited in a Search Report as a Y reference, with an English translation provided in this office action) or in view of Takahashi (U.S. Patent 5,610,683, which is a patent family member of JP 06-168866 which was cited in Applicant's IDS and which was cited in a Search Report as a Y reference). The Japanese patent document JP 63-073628 discloses in figure 2 and the Abstract supporting the substrate (wafer) W by a substrate support device 1. Element 6 is the liquid detector which detects a liquid forming the liquid film formed on the substrate and adhering to the surface of the substrate. Controller 8 determines whether the substrate needs to be dried on the basis of detection made by the liquid detector 6. The drying step includes irradiating the substrate by means of a ray lamp 10 (figure 2)

until the wafer surface is dried up. Water droplets are also shaken off by centrifugal force by element 1 (see the Abstract and figure 2). With respect to claim 10, the ray lamp 10 would be a heating process. A coating unit must have been provided for coating the substrate with a resist film. Thus, the Japanese patent document JP 63-073628 discloses the invention except for an immersion exposure process. The Japanese patent document JP 06-124873 discloses in figure 1 and figure 11 and paragraphs # 0014 and # 0023 of the English translation the well known immersion exposure process using a liquid 30. Paragraph # 0023 further discloses a **blower 35 having a nozzle for blowing clean air onto the surface of the wafer to remove liquid 30**. Takahashi discloses in figures 1 and 2 and column 5 and 6 the well known immersion exposure process with a liquid 23. Takahashi also discloses in column 4, lines 64 and 65, column 7, line 8, and column 10, line 2, that the wafer has a photosensitive **coating** on the surface (which must have been provided by a coating unit). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide the Japanese patent document JP 63-073628 with an immersion exposure process in view of either the Japanese patent document JP 06-124873 or Takahashi for the purpose of producing a finer resolution of the pattern on the wafer and thus producing a better final product.

3. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ho et al. (U.S. Patent (7,070,915) in view of the Japanese patent document JP 63-073628. Ho et al. discloses in column 1, lines 17-19, coating the upper surface of the substrate

with a thin film of radiation sensitive material. Column 4, line 67, discloses a **coating unit** in the track system 10, 110, or 210. Figure 5 and column 6, lines 26-65 further discloses a step 510 which is the step of forming a thin coating of radiation sensitive material on the substrate (which would be a coating unit). Figures 1, 2, and 3 disclose immersion lithography systems 20, 120, and 220 for exposing a pattern on the substrate by immersion exposure. Column 3, lines 46 and 46, and also step 550 in figure 5, disclose developing the substrate. Column 5, line 3 discloses that the track systems 10, 110, and 210 could include a developing unit. Elements 30, 130, and 230 in figures 1, 2, and 3 are drying units for drying the substrate. Column 4, lines 32-57, disclose controllers 40, 140, and 240 controlling each of the systems. Column 6, line 4, discloses the controllers 40, 140, and 240 **monitors** the outputs from these systems. With respect to claims 5 and 6, Ho discloses a tracking system 10, 10, and 210 for transporting the substrates. Thus Ho et al. discloses the invention except for specifically disclosing an inspection unit (although Ho et al. does disclose monitoring the systems). The Japanese patent document JP 63-073628 discloses in figure 2 and the Abstract an inspection unit including element 6 for determining whether there are water drops on the substrate. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide Ho et al. with an inspection unit to determine whether a substrate needs to be processed by a drying process in view of the Japanese patent document JP 63-073628 for the purpose of improving the throughput of the system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALAN A. MATHEWS whose telephone number is (571)272-2123. The examiner can normally be reached on Monday through Friday from 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diane Lee can be reached on (571) 272-2399. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Alan A. Mathews/  
Primary Examiner  
Art Unit 2851

AM